

CLAIMS:

1. A bridge joint for joining two sections of a roadway of a bridge, the bridge joint comprising:

- a plurality of roadway beams extending across the roadway and including:
 - opposite edge beams having support formations extending therealong, the edge beams being adapted to be fixed to respective opposite ones of the roadway sections and
 - intermediate beams;
- a plurality of crossbeams extending between the opposite edge beams,
 - the crossbeams having end formations which are complementary to the support formations of the edge beams,
 - the crossbeams being supported by engagement of the end formations with the support formations, whereby the crossbeams remain mutually parallel as the edge beams move with respect to each other, at least whilst the edge beams remain parallel and
 - the crossbeams and the intermediate beams being adapted for support of the intermediate beams on the crossbeams; and
 - spacing features fixed on at least some of the crossbeams and co-operating with the intermediate beams for evenly spacing the latter between the edge beams

characterised in that the support formations of the opposite edge beams are open, circular section grooves; and the end formations of the crossbeams are have spherical ends, sized to fit the grooves.

2. A bridge joint as claimed in claim 1, wherein the crossbeams are of uniform length, whereby their angle with respect to the edge beams is determined by the separation of the edge beams and they are maintained parallel.

3. A bridge joint as claimed in claim 1 or claim 2, including a number of spacer balls arranged in each groove between each adjacent pair of crossbeam spherical ends to maintain the separation of the crossbeams.

4. A bridge joint as claimed in claim 1, claim 2 or claim 3, wherein the support formations include support lips along the edges of the edge beams, with the circular grooves being set in from the support lips, and the crossbeams have flat undersides bearing on the support lips.

5. A bridge joint as claimed in any preceding claim, wherein the intermediate beams are perforate, with the crossbeams passing through perforations in the intermediate beams.
6. A bridge joint as claimed in claim 5, wherein the intermediate beams have flat under-surfaces for bearing on the crossbeams and lower extensions including the perforations, and the crossbeams have flat topsides for supporting the under-surfaces of the intermediate beams.
7. A bridge joint as claimed in any preceding claim, wherein the spacing features are cams fixed to the crossbeams and acting on the intermediate beams.
8. A bridge joint as claimed in claim 6, wherein the spacing features are cams fixed to the undersides of at least some of the crossbeams and acting on respective opposite faces of the lower extensions of the intermediate beams.
9. A bridge joint as claimed in any preceding claim, wherein the edge beams and the intermediate beams have heads with laterally opening grooves, diaphragm seals engaged in these grooves extending between respective adjacent pairs of these beams.
10. A bridge joint as claimed in any preceding claim, wherein the edge beams and the intermediate beams are solid steel beams and the crossbeams are of tubular steel.
11. A bridge joint as claimed in claim 10, wherein the crossbeams are of mild steel, with stainless steel sheaths.

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